

Dairy

FOODS

Moving products with conveyors, palletizers



Schneider Packaging Equipment Co. is a manufacturer of palletizing equipment. The key goals to a palletizing application are cost savings, improve quality and reduce injuries due to repetitive motion, back injury and similar factors, said Terry L. Schneider, the company's director of sales and marketing.



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Moving dairy products through a plant, from Point A to Point B and then to Point C is fraught with danger to employees and to the products themselves.

Besides the cost of a workman's comp claim, being short an employee due to injury can cause a slowdown on the production line. Refrigerated and frozen foods are delicate and they must be conveyed to a cooler or frozen warehouse without delay.

Dairy Foods talked with several equipment suppliers about the use of conveyors and palletizers in dairy processing plants. Plant managers can see some of this equipment at September's Pack Expo show in Las Vegas or at November's International Dairy Show, which is co-located with Process Expo in Chicago (see pages 72 and 74 for more information about those events).

The key goals to a palletizing application are to provide cost savings, improve quality and reduce injuries due to repetitive motion, back injury and similar factors, said Terry L. Zarnowski, director of sales and marketing for Schneider Packaging Equipment Co., Brewerton, N.Y.

How best to do that depends on many variables. Plant managers need to answer questions such as: Is the system going to handle more than one product size, case size, and/or type of product over the life of its use?

“By planning for each product's size, production rate (both near- and long-term), opting for energy-efficient equipment and using floor space effectively, you can minimize the true cost of ownership and maximize OEE[overall equipment effectiveness],” Zarnowski said.

Quest Industrial, Monroe, Wis., used its knowledge of equipment and dairy processing to help a butter manufacturing plant in Wisconsin solve several inefficiencies, including:

- Strain on the body caused by 50-pound boxes of butter;

- Overage of accumulation. Operators were unable to keep up with production, causing down-time in overall operations;

- The untimely manner of operators placing boxed product onto the pallets, which ultimately led to a drop in the production rate; and

- Inefficiencies in the production line pertaining to the operator wrapping the pallet for shipment.

Quest installed an automated palletizer to gain efficiency. Quest's engineers designed a longer and wider conveyance for accumulation to ensure timely and longer production. A Fanuc robot was programmed to stack the 50-pound boxes of butter in the proper layout to maximize exact and repetitive patterns to ensure every pallet was sturdily and efficiently stacked. The robot can build several pallets in the same amount of time as one completed manually.

The time spent wrapping pallets was drastically cut by automating this process within the palletizing cell. Quest's engineers created a pivot point in the line where the conveyor rotates the pallet for wrapping and then continues down the line for accumulation or automatic transfer. The butter processor chose to have an operator grab the loaded pallet to move it to storage. However, there is an option to have the pallet dispensed onto a robot for trained transportation to a particular spot in storage.

Quest said the dairy processor was able to create an ROI from the palletizer within a little over a year.